

I claim:

1. Commercial, residential, and recreational power equipment based on a singular motor usable on multiple host implements, where each host implement has a dedicated working piece for performing a particular work task, said power equipment comprising:

- a. a host implement having a (i) frame, (ii) a mounting block secured to the frame, said mounting block having a hole extending vertically therethrough, (iii) a driven shaft connected to the frame with a first terminus and a second terminus, (iv) a working piece operably attached to the second terminus of the driven shaft, (v) a first self-locating and locking coupler attached to the first terminus of the driven shaft and extending into the hole in the mounting block, and (vi) a first latch component; and
- b. a demountable motor removably secured to the host implement, said demountable motor having a drive shaft with a second self-locating and locking coupler attached to a terminus thereof, said second self-locating and locking coupler configured to mechanically mate with the first self-locating and locking coupler on the host implement for transferring a rotation force from the drive shaft of the demountable motor to the driven shaft of the host implement for driving the working piece and further having a second latch component for semi-permanently attaching to the first latch component on the host implement,

whereby the demountable motor is readily removed from the host

implement by an unlatching and lifting action and is capable of being mounted on another host implement for performing another work task.

2. The commercial, residential, and recreational power equipment of claim 1 further having roller bearing assemblies operably associated with the driven shaft of the host implement and the drive shaft of the demountable motor.

3. The commercial, residential, and recreational power equipment of claim 2 wherein a bearing block is secured to an underside of the mounting block and a roller bearing race is positioned within the bearing block to encompass the driven shaft.

4. The commercial, residential, and recreational power equipment of claim 2 wherein the mounting block on the host implement has a recess at the top of the hole for receiving a tapered sleeve and further a tapered roller bearing member is mounted on the drive shaft of the demountable motor to fit within the tapered sleeve.

5. The commercial, residential, and recreational power equipment of claim 1 wherein the terminus of each of the first and second self-locating and locking couplers has opposed offset spiral ramps, each said spiral ramp extending in opposite directions from the terminus a half-turn so as to create a stop wall at the end of each spiral ramp.

6. The commercial, residential, and recreational power equipment of claim 5 wherein each said self-locating and locking coupler has a recessed shoulder at a center of its terminus and a bolt hole to receive a bolt for attachment to the driven shaft of the host implement and the drive shaft of the demountable motor.

7. The commercial, residential, and recreational power equipment of claim 1 wherein the first and second self-locating and locking couplers each has a cylindrical-shaped body with a centered vertical bore hole extending axially from a first terminus partially into the cylindrical-shaped body to create a shoulder at a bottom of the bore hole, a first spiral ramp extending from the first terminus an approximate half-turn to a mid-line extending horizontally through a center axis of the cylindrical-shaped body and ending to create a first substantially vertical stop wall, a second spiral ramp extending axially from the first terminus in an opposite direction from the first spiral ramp an approximate half-turn to the mid-line and ending to create a second substantially vertical stop wall, and a vertical bolt hole extending axially from the shoulder of the centered vertical bore hole.

8. The commercial, residential, and recreational power equipment of claim 7 wherein the driven shaft of the host implement and the drive shaft of the demountable motor each has a threaded bolt hole extending axially into a terminus and further wherein a first bolt extends through the bolt hole of the first self-locating and locking coupler into the threaded bolt hole of the driven shaft and a second bolt extends through the bolt hole of the second self-locating and locking coupler into the threaded bolt hole of the drive shaft.

9. Commercial, residential, and recreational power equipment based on a singular motor usable on multiple host implements, where each host implement has a dedicated working piece for performing a particular work task, said power equipment comprising:

- a. a host implement having a (i) frame, (ii) a mounting block secured to the frame, said mounting block having a hole extending vertically therethrough and having a recessed shoulder surrounding the hole in the top surface thereof, (iii) a driven shaft connected to the frame with a first terminus and a second terminus, (iv) a working piece operably attached to the second terminus of the driven shaft, (v) a first self-locating and locking coupler attached to the first terminus of the driven shaft and extending into the hole in the mounting block, and (vi) a first latch component; and
- b. a demountable motor removably secured to the host implement, said demountable motor having a (i) drive shaft, (ii) a second self-locating and locking coupler attached to a terminus of the drive shaft, said second self-locating and locking coupler configured to mechanically mate with the first self-locating and locking coupler on the host implement for transferring a rotation force from the drive shaft of the demountable motor to the driven shaft of the host implement for driving the working piece, (iii) a roller bearing assembly operably associated with the drive shaft, and (iv) a second latch component for semi-permanently attaching to the first latch component of the host implement,

whereby the demountable motor is readily removed from the host implement by an unlatching and lifting action and is capable of being mounted on another host implement for performing another work task.

10. The commercial, residential, and recreational power equipment of claim 9 further having a roller bearing assembly attached to an underside of the mounting block and operably associated with the driven shaft.

11. The commercial, residential, and recreational power equipment of claim 10 wherein a bearing block is secured to an underside of the mounting block and a roller bearing race is positioned within the bearing block to encompass the driven shaft.

12. The commercial, residential, and recreational power equipment of claim 9 wherein the mounting block on the host implement has a recess at the top of the hole for receiving a tapered sleeve and further a tapered roller bearing member is mounted on the drive shaft of the demountable motor to fit within the tapered sleeve.

13. The commercial, residential, and recreational power equipment of claim 9 wherein the terminus of each of the first and second self-locating and locking couplers has opposed offset spiral ramps, each said spiral ramp extending in opposite directions from the terminus a half-turn so as to create a stop wall at the end of each spiral ramp.

14. The commercial, residential, and recreational power equipment of claim 12 wherein each said self-locating and locking coupler has a recessed shoulder at a center of its terminus and a bolt hole to receive a bolt for attachment to the driven shaft of the host implement and the drive shaft of the demountable motor.

15. The commercial, residential, and recreational power equipment of claim 9 wherein the first and second self-locating and locking couplers each has a cylindrical-shaped body with a centered

vertical bore hole extending axially from a first terminus partially into the cylindrical-shaped body to create a shoulder at a bottom of the bore hole, a first spiral ramp extending from the first terminus an approximate half-turn to a mid-line extending horizontally through a center axis of the cylindrical-shaped body and ending to create a first substantially vertical stop wall, a second spiral ramp extending axially from the first terminus in an opposite direction from the first spiral ramp an approximate half-turn to the mid-line and ending to create a second substantially vertical stop wall, and a vertical bolt hole extending axially from the shoulder of the centered vertical bore hole.

16. The commercial, residential, and recreational power equipment of claim 15 wherein the driven shaft of the host implement and the drive shaft of the demountable motor each has a threaded bolt hole extending axially into a terminus and further wherein a first bolt extends through the bolt hole of the first self-locating and locking coupler into the threaded bolt hole of the driven shaft and a second bolt extends through the bolt hole of the second self-locating and locking coupler into the threaded bolt hole of the drive shaft.

17. Commercial, residential, and recreational power equipment based on a singular motor usable on multiple host implements, where each host implement has a dedicated working piece for performing a particular work task, said power equipment comprising:

- a. a host implement having a (i) frame, (ii) a mounting block secured to the frame, said mounting block having a hole extending vertically therethrough and having a recessed shoulder surrounding the hole in the top surface

thereof, (iii) a driven shaft connected to the frame with a first terminus and a second terminus, (iv) a working piece operably attached to the second terminus of the driven shaft, (v) a first self-locating and locking coupler attached to the first terminus of the driven shaft and extending into the hole in the mounting block, said first self-locating and locking coupler having a cylindrical-shaped body with a centered vertical bore hole extending axially from a first terminus partially into the cylindrical-shaped body to create a shoulder at a bottom of the bore hole, a first spiral ramp extending from the first terminus an approximate half-turn to a mid-line extending horizontally through a center axis of the cylindrical-shaped body and ending to create a first substantially vertical stop wall, a second spiral ramp extending axially from the first terminus in an opposite direction from the first spiral ramp an approximate half-turn to the mid-line and ending to create a second substantially vertical stop wall, and a vertical bolt hole extending axially from the shoulder of the centered vertical bore hole, and (vi) a first latch component; and

b. a demountable motor removably secured to the host implement, said demountable motor having a (i) drive shaft, (ii) a second self-locating and locking coupler attached to a terminus of the drive shaft, said second self-locating and locking coupler having a cylindrical-shaped body with a centered vertical bore hole extending axially from a first terminus partially into the

cylindrical-shaped body to create a shoulder at a bottom of the bore hole, a first spiral ramp extending from the first terminus an approximate half-turn to a mid-line extending horizontally through a center axis of the cylindrical-shaped body and ending to create a first substantially vertical stop wall, a second spiral ramp extending axially from the first terminus in an opposite direction from the first spiral ramp an approximate half-turn to the mid-line and ending to create a second substantially vertical stop wall, and a vertical bolt hole extending axially from the shoulder of the centered vertical bore hole so to mechanically mate with the first self-locating and locking coupler on the host implement for transferring a rotation force from the drive shaft of the demountable motor to the driven shaft of the host implement for driving the working piece, (iii) a roller bearing assembly operably associated with the drive shaft, and (iv) a second latch component for semi-permanently attaching to the first latch component of the host implement,

whereby the demountable motor is readily removed from the host implement by an unlatching and lifting action and is capable of being mounted on another host implement for performing another work task.

18. The commercial, residential, and recreational power equipment of claim 17 wherein the driven shaft of the host implement and the drive shaft of the demountable motor each has a threaded bolt hole extending axially into a terminus and further wherein a first bolt extends through the bolt hole of the first

self-locating and locking coupler into the threaded bolt hole of the driven shaft and a second bolt extends through the bolt hole of the second self-locating and locking coupler into the threaded bolt hole of the drive shaft.